Numerical optimization of multilayerel ectrodes without indium for use in organic solar cells

Titre	Numerical optimization of multilayerel ectrodes without indium for use in organic solar cells
Type de publication	Article de revue
Auteur	Bou, Adrien [1], Torchio, Philippe [2], Vedraine, Sylvain [3], Barakel, Damien [4], Lucas, Bruno [5], Bernède, Jean Christian [6], Thoulon, Pierre-Yves [7], Ricci, Marc [8]
Type	Article scientifique dans une revue à comité de lecture
Année	2014
Langue	Anglais
Pagination	310–317
Volume	125
Titre de la revue	Solar Energy Materials & Solar Cells
Mots-clés	Intrinsic absorption efficiency [9], Optical optimization [10], Organic solarcell [11], Oxide/metal/oxide [12], TMM [13]
Résumé en anglais	A numerical process is developed on aTransfer-Matrix Method (TMM) to calculate the optical properties of multilayers involved in thin film solar cells.Using the bulk complex refractive indices in a considered spectral range for each material allows us to calculate the transmittance of the whole structure and the intrinsic absorption inside the sole active layer. An optical optimization of oxide|metal|oxide trilayer electrode in the air and with a (poly-3-hexylthiophene):[6,6]-phenyl-C_{61}-butyric acid methylester (P3HT:PCBM) bulkheterojunction based organic solar cell is performed.The ZnO|Ag|ZnO structure is specifically studied in order to avoid the use of indium in such photovoltaic components.
URL de la notice	http://okina.univ-angers.fr/publications/ua12249 [14]
DOI	10.1016/j.solmat.2013.12.026 [15]
Lien vers le document	http://dx.doi.org/10.1016/j.solmat.2013.12.026 [15]

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